



# UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE  
United States Patent and Trademark Office  
Address: COMMISSIONER FOR PATENTS  
P.O. Box 1450  
Alexandria, Virginia 22313-1450  
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/734,789	12/12/2003	Duk-Yong Kim	5020-1-003	3480
33942	7590	12/10/2004	EXAMINER	
CHA & REITER, LLC 210 ROUTE 4 EAST STE 103 PARAMUS, NJ 07652			GILMAN, ALEXANDER	
			ART UNIT	PAPER NUMBER
			2833	

DATE MAILED: 12/10/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

## Office Action Summary

Application No.

10/734,789

Applicant(s)

KIM ET AL.

Examiner

Alexander D Gilman

Art Unit

2833

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

### Status

- 1) ☒ Responsive to communication(s) filed on 12 December 2003.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

### Disposition of Claims

- 4) ☒ Claim(s) 1-17 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-17 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

### Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 12 December 2003 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

### Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some \* c) ☐ None of:
- 1) ☒ Certified copies of the priority documents have been received.
  - 2) ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  - 3) ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

### Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)  
Paper No(s)/Mail Date 04/15/2004.
- 4) ☐ Interview Summary (PTO-413)  
Paper No(s)/Mail Date. \_\_\_\_\_.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: \_\_\_\_\_.

Art Unit: 2833

### DETAILED ACTION

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

Claims 1, 2 are rejected under 35 U.S.C. 102(b) as being anticipated by Caudwell.

o With regard to claim 1, Caudwell (US 3,989,333) disclose a connectors-integrated directional coupler comprising:

a housing (15) having an input connector (70) integrally extended from one end of the housing and an output connector (70) integrally extended from the other end of the housing;

a main line (60) connecting the input connector to the output connector for delivering a signal; and

a coupling line (112) for inducing the signal from the main line thereto.

With regard to claim 2, Caudwell disclose that the coupling line comprises a coupling port (132) at one end thereof for outputting power induced from the main line.

### ***Claim Rejections - 35 USC § 103***

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims 1-7, 10-15 rejected under 35 U.S.C. 103(a) as being unpatentable over

Art Unit: 2833

With regard to claim 1, Wang et al (US 6,624,722) disclose a connectors-integrated directional coupler comprising:

a housing (2) having (Fig. 3) an input connector and an output connector extended from the ends end of the housing;

a main line (3) connecting the input connector to the output connector for delivering a signal; and

a coupling line (4) for inducing the signal from the main line thereto. .

Wang et al do not disclose that the connectors integrally extended from ends of the housing while teaching assembling them to the house.

Hsueh (US 5,763,830) disclose connectors (115) integrally extended from ends of the housing

Therefore, it would have been obvious to one having ordinary skill in the art at the time the invention was made to provide the the connectors of Wang et al as integrally formed, as taught by Hsueh , for easier manufacturing

Also it would have been obvious to one having ordinary skill in the art at the time the invention was made to make connectors integrally extended from ends of the housing, since it has been held that forming in one piece an article which has formerly been formed in two pieces and put together involves only routine skill in the art. *Howard v. Detroit Stove Works*, 150 U.S. 164 (1893).

With regard to claim 2, Wang when modified by Hsue disclose (Wang) that the coupling line comprises a coupling port (4) at one end thereof for outputting power induced from the main line.

With regard to claim 3, Wang when modified by Hsue disclose (Wang) that the housing further comprising an elongated hole (Fig. 1a) extending from the input connector to the output connector for accomodating the main line therein.

With regard to claim 4, Wang when modified by Hsue disclose (Wang) that the housing further comprises a planar mounting surface having at least two coupling holes (Fig. 3) at an outer circumferential surface of the housing for mounting the coupling line thereon.

With regard to claim 5, Wang when modified by Hsue disclose (Wang) that the coupling line is a microstrip line (col. 4, lines 24-29).

Art Unit: 2833

With regard to claim 6, Wang when modified by Hsue disclose (Wang) that a main bar (Fig. 3, 6) ; and sub-bars integrally extending from both ends of the main bar.

With regard to claim 7, Wang when modified by Hsue disclose (Wang) that a planar cover having a port hole (Fig. 2) from which the coupling port protrudes for covering a top surface of the coupling line and closely fixing the coupling line to the housing.

With regard to claim 10, Wang when modified by Hsue disclose (Wang) that the input connector comprises screw threads formed on the outer circumferential surface thereof (Fig. 2).

With regard to claims 11-15, Wang when modified by Hsue disclose (Wang) that one or more Teflon support members (Fig. 6) fixed in the elongated hole of the housing, spaced from each other by a predetermined distance.

Claims 8, 9, 16, 17 are rejected under 35 U.S.C. 103(a) as being unpatentable over Wang in view of Hsue as applied to claim 1 above, and further in view of Toma.

With regard to claims 8, 9, Wang when modified by Hsue disclose all of the limitations except for a fixing groove, a fixing ring, and a hollow cover

Toma (US 5,607,325) discloses (Fig. 5) a fixing groove (178) formed to a predetermined depth on the outer circumferential surface of the output connector;

a fixing ring (121) fit around the fixing groove, protruding to a predetermined

height from the outer circumferential surface of the first connector; and a hollow cover (116) opened at

both ends thereof and engaged with the first connector so that the hollow cover is rotatable round the first connector.

Therefore, it would have been obvious to one having ordinary skill in the art at the time the invention was made to provide Wang et al with the structure of the outer connector, as taught by Toma, to mate the Wang's coupler with the coaxial line terminated with outer screw threads.

With regard to claims 16, 17 Wang when modified by Hsue-Toma disclose (Toma) The connectors-integrated directional coupler of claim 11, further

comprising a support member holder, the support member holder including:

a holder (116) , a guide extending from the holder toward the end of the output connector;

Art Unit: 2833

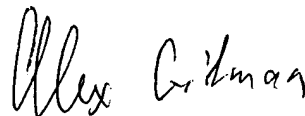
a guide hole penetrating the holder and an end of the guide for exposing the main line therefrom;  
a gasket (122) attached to one end of the holder.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Alexander D Gilman whose telephone number is 571 272-2004. The examiner can normally be reached on Monday-Friday, 10:30 a.m. - 8:00 p.m.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Paula A. Bradley can be reached on 571 272-2800 ext. 33. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

12/03/2004

A handwritten signature in black ink that reads "Alex Gilman". The signature is written in a cursive, flowing style.

**ALEXANDER GILMAN  
PRIMARY EXAMINER**